

Remarks

This application has been carefully reviewed in light of the Office Action mailed January 26, 2007. At the time, claims 1, 3, 5-11, 13, 14 and 26-31 were pending in the application. In the Office Action, claims 1, 3, 5-11, 13, 14 and 26-30 were rejected. Applicant respectfully requests reconsideration of the above application in view of the following remarks.

Claims 1, 3, 5-11, 13, 14 and 26-28 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Schneider* (U.S. Patent No. 3,415,364) in view of *Hayashi et al.* (U.S. Patent No. 5,045,591) and *Schwarz* (U.S. Patent No. 3,661,860).

The proposed *Schneider*, *Hayashi et al.*, *Schwarz* combination does not teach, disclose or suggest the pending claims. By way of example and not limitation, the Examiner's attention is drawn to Applicants independent claims 1 and 27, which recite "a shape memory foam (SMF) structure..., wherein the SMF structure is crosslinked." The Examiner admits that the *Schwarz* and *Schneider* references do not disclose or suggest a crosslinked SMF structure. Rather, the Examiner opines that *Hayashi et al.* teaches a polyurethane foam that is crosslinked. (Office Action, dated January 26, 2006, page 3.) However, the *Hayashi* reference does not teach crosslinked shape memory foams. To the contrary, the shape memory foams disclosed in *Hayashi et al.* are based on a crystalline, linear structure. According to *Hayashi et al.*, "[t]he polyurethane foam is made of polymer chains having substantially no excess isocyanate groups at their terminals and hence contains no allophanate links which form rigid crosslinks . . . this chain polymer will exhibit a desired modulus if it has an adequate crystallinity . . . [t]he crystallinity should preferably be in the range of 3 to 50 wt %." (Column 2, lines 34-43.) To provide a linear structure with crystallinity, a difunctional polyol, isocyanate, and chain extender are reacted. (Column 2, line 53 through column 3, line 8.) Conversely, Applicants claimed invention recites shaped memory foams with a crosslinked structure. For at least these reasons, the proposed combination of *Schneider*, *Hayashi* and *Schwarz* does not render the pending claims unpatentable as being obvious.

Moreover, claims 29 and 30 stand rejected under 35 U.S.C. § 103(a) as being unpatable over the proposed combination of *Schneider, Hayashi et al., Schwarz* and *Chaffanjon et al.* (U.S. Patent No. 5,594,097).

The Examiner admits that *Schneider, Hayashi* and *Rosthauser* fail to disclose a shape-memory foam based on polycarbonate polyol reacted with an isocyanate. The Examiner attempts to cure this defect by combining the teachings of *Chaffanjon et al.* with the teachings of *Schneider, Hayashi* and *Rosthauser*. Applicant respectfully traverses this rejection because the proposed combination, assuming that they are properly combinable, does not teach, disclose, or suggest the claimed invention.

For instance, the proposed combination does not teach, disclose or suggest a SMF composition having a shape memory characteristic based on polycarbonate polyols, as recited in claims 29 and 30. *Chaffanjon et al.* provides a polyol and a process for preparing a flexible polyurethane foam, from a specific class of polyols (col. 1, ll. 10-12). *Chaffanjon et al.* provides that flexible polyurethane foams refer to cellular product exhibiting substantial shape recovery after deformation (col. 3, ll. 13-15). *Chaffanjon et al.* does not teach or suggest the claimed shape memory characteristic, i.e. that the foam can be compressed and when cooled below the T_g , that retains the compressed shape without any aid from an outside force, and that regains substantially its original shape after heating to above the T_g . Contrarily, claims 29 and 30 recite a SMF composition having a shape memory characteristic based on polycarbonate polyols. For at least this reason, claims 29 and 30 are patentable over the proposed combination and the other art of record.

CONCLUSION

For the foregoing reasons, Applicants believe that the Office Action of January 26, 2007 has been fully responded to. Consequently, in view of the above amendments and remarks, Applicants respectfully submit that the application is in condition for allowance, which allowance is respectfully requested.

The Commissioner is hereby authorized to charge our Deposit Account No. 02-3978 in the amount of \$60.00 to cover the one month Petition fee. The Commissioner is also authorized to charge any additional fees or credit any overpayments as a result of the filing of this paper to our Deposit Account No. 02-3978.

Respectfully submitted,

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